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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,130	09/16/2003	Michael M. Perevozchikov	0315-523/DVA	3987

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EXAMINER

TRIEU, THERESA


ART UNIT

PAPER NUMBER

3748

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/663,130	Applicant(s) PEREVOZCHIKOV, MICHAEL M.	
	Examiner Theresa Trieu	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-38 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 25-30, 32-38 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>September 16, 2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Receipt and entry of Applicant's Preliminary Amendment filed on Sept 16, 2003 is acknowledged. Claims 1-24 have been canceled. Claims 25-38 have been added. Thus claims 25-38 are pending in this application.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "124" (see page 10, line 8). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "first and second scroll wraps extend a different angular amount" recited in claim 32 and "first scroll wrap...second scroll wrap....greater than said second angular amount" recited in claim 33 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 25 and 31 is objected to because of the following informalities:

- Claim 25: page 4, line 5, "said first scroll wrap" should be changed to --*said second scroll wrap*--.

- Claim 31, page 6, line 2, "said single fluid injection passage" should be changed to -- *a single fluid injection port*--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 25-37 are rejected under 35 U.S.C. 102(a) as being anticipated by Kuroiwa (Publication Number JP 2001-050181).

Regarding claims 25 and 26, as shown in Fig. 1, Kuroiwa discloses a scroll machine comprising:

a first scroll member (2) having a first scroll wrap (2a) extending from a first end plate (not numbered; however, clearly seen in Fig. 1), the first scroll wrap defining a first outer end;

a second scroll member (3) having a second scroll wrap (3a) extending from a second end plate (not numbered; however, clearly seen in Fig. 1), the second scroll wrap (3a) defining a second outer end, the second scroll wrap being intermeshed with the first scroll wrap;

a drive mechanism (5) for causing the second scroll member (3) to orbit with respect to the first scroll member, the first and second scroll members (2, 3) forming a first enclosed space (6a) when the first outer end contacts the second scroll wrap and forming a second enclosed space (6b) when the second outer end contacts the first scroll wrap, the first and second enclosed spaces (6a, 6b) moving from a radial outer position to a central position during the orbiting of the second scroll member;

a single fluid injection passage (7) extending through one of the first and second scrolls (2, 3), the single fluid injection passage injecting fluid into the first enclosed space (6a) and into the second enclosed space (6b) simultaneously during the orbiting of the orbiting scroll member (3) (see Fig. 2- see [0014] paragraph); the single fluid injection passage (7) extending through the first scroll member (2);

Regarding claims 27-30, 32-37 Kuroiwa further discloses wherein the single fluid injection passage (7) begins communication with the first/second enclosed space (6a, 6b) simultaneously with the forming of the first/second enclosed space (6a, 6b); the single fluid injection passage being in communication with the second and first enclosed spaces (6b, 6a) when the single fluid injection passage (7) begins communication with the first and second enclosed spaces (5a) respectively; the first and second scroll wraps (2, 3) extending a different angular amount (see Fig. 8 – see [0001]; the first and second scroll wrap (2) extending a first and second angular amount (not numbered; however, clearly seen in Figs. 2 and 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. ***Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroiwa '181 in view of Caillat et al. (Caillat) (Patent No. 5,329,788).***

Kuroiwa discloses the invention as recited above; however, Kuroiwa fails to disclose a single fluid injection passage extending through the second scroll member.

As shown in Fig. 4, Caillat teaches that it is conventional in the scroll compressor art to utilize the single fluid injection passage (122) extending through the second scroll member (24'). It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized single fluid injection passage extending through the second scroll member, as taught by Caillat in the Kuroiwa apparatus since the use of thereof would have reduced overheating of the scroll compressor.

Allowable Subject Matter

6. Claim 31 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior Art

The IDS (PTO-1449) filed on September 16, 2003 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of five patents.

Shibayashi et al. (Publication Number JP 02-245490) disclose a variable speed scroll compressor by injecting high pressure liquid refrigerant into the compression chamber

Takahashi et al. (Publication Number JP 04-022781) discloses a scroll compressor having a liquid injection passage.

Takahashi et al. (Publication Number JP 04-031683) disclose a scroll compressor having a fluid injection on a stationary scroll.

Perevozchikov et al. (Publication Number EP 1,182,353) disclose a scroll compressor having a fluid injection system.

Nakamura et al. (Publication Number JP 2003-120555) disclose a scroll compressor and air conditioner.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 703-308-6434. The examiner can normally be reached on Monday-Thursday 7:30am- 6:00pm - Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E Denion can be reached on 703-308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT

March 2, 2004



Theresa Trieu

Patent Examiner

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